ODP-9-1743
5 DEC 1979

25X1 MEMORANDUM FOR: [redacted]
DDA Communications Requirements Coordinator

25X1 FROM : [redacted]
Chief, Management Staff, ODP

SUBJECT : New Communications Support Requirements: FY 1982 - FY 1986

REFERENCE : MF, Multiple Addressees, fm. Clifford D. May, Jr., ADDA, dtd. 28 Sept 1979 (DDA 79-0112/5), Same Subject.

1. As requested in the reference, this memo identifies and prioritizes the Office of Data Processing's new communications requirements for the fiscal year period 1982 through 1986. Two sections are presented below: new communications support not currently being provided, and existing communications support that will change significantly during the planning period. The paragraphs under each section are in order of highest priority to lowest priority. [redacted]
25X1

THE REQUIREMENTS FOR NEW COMMUNICATIONS SUPPORT NOT CURRENTLY BEING PROVIDED ARE:

2. Wideband Bus Communications System: The ODP bus communications requirements for FY 1982 through FY 1986 are included in the Wideband Bus Communication System design and development effort being conducted by the Special Project Staff/ODP. These requirements have been coordinated with the Office of Communications so they are not repeated here. A copy of the preliminary statement of requirements is attached. Use of wideband bus

[redacted]
25X

technology for these requirements will be necessary in view of the projected terminal installation rate listed below which will saturate the OC distribution grid during this planning period. [redacted] 25X1

3. Installation of Dual, End-to-End Isolated Path, Trunk Carrier Circuits Between the Headquarters Building and Selected Outbuildings: ODP has previously stated that the data communications required to service ODP customers must have .995 average reliability and .995 average availability per circuit with no more than 1 uncorrected error per week per circuit. This requirement is still valid and necessary to provide an ODP on-line service availability of .99. [redacted] 25X

The availability requirement above equates to a maximum outage of 3 minutes per day for a 10 hour service period. Because of the single thread trunk carrier configuration* in use at most outbuildings today, any failure of the transmission medium, crypto, or MUX equipment can render all data service inoperative or degraded for an extended period of time.** [redacted] 25X

To provide the required data service, two separate, isolated trunk carrier circuits should be available between the Headquarters Signal Center and each outbuilding Crypto Equipment Room. Each circuit should have its own MUX and crypto equipment. Two basic requirements for dual, isolated trunk circuits are:

a. Switching (or loading) from one trunk to the second trunk must be initiated and controlled from the Headquarters Building, requiring no intervention at the outbuilding. [redacted] 25X

b. Capacity must be such that either trunk to an outbuilding can accommodate all data service to the outbuilding with no degradation in throughput. [redacted] 25X1

ODP's position is that outbuildings with 16 or more data terminals warrant the installation of dual trunk systems. A list follows showing buildings which will

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* Trunk carrier as used here is defined as the transmission medium, microwave, landline or a combination thereof, and the trunk associated crypto and MUX equipment.

** An extended outage for data service is defined as a two hour period or greater.

[redacted] 25X

qualify for dual trunk systems in the FY 1982 - FY 1986 period. (Since OC has a dual, isolated trunk system in
25X1 the works for the [redacted] it is excluded from the listing.)

Ames
Chamber of Commerce

[redacted] 25X1

In addition, the new building for DDS&T components will require 24 hour data service and standard circuits of 19.2KB for remote printers, remote job entry stations, and remote
25X1 magnetic tape units. [redacted]

4. Minicomputer and Word Processing Networks: The terminal projections contain a substantial number of word processing installations. The majority of these word processors will be standalone installations. In the FY 1982 to FY 1986 period there is a requirement to connect a percentage of installed word processors or minicomputers to communicate with like devices in the same building, in other buildings, or with the central computers in Headquarters. A conservative planning rate for the installation of minicomputer and word processor systems that will require network communications support is four per year for the FY 1982 to FY 1986 period. [redacted] 25X

Network throughput will be required at 9600 bps with a .995 reliability and availability and one uncorrected error
25X1 per week per circuit. [redacted]

5. Maintenance Support for Field Deployed Terminals: During the planning period there will be terminals deployed
25X1 to foreign [redacted] Two projects well underway, CRAFT and CLASS A (for the Office of Finance), have been coordinated with OC. ODP foresees that the Office of Communications will be asked to provide maintenance services on a depot repair/return basis for some 100 ODP standard terminals located in field stations throughout the FY 1982 - FY 1986 period. [redacted] 25X

[redacted] 25X

THE REQUIREMENTS FOR EXISTING COMMUNICATIONS SUPPORT THAT WILL CHANGE SIGNIFICANTLY DURING THE PLANNING PERIOD ARE:

6. New Terminal Installations and Terminal Relocations: ODP projections for the number and type of new data terminals to be installed in the FY 1982 to FY 1986 period and the number of terminal relocations are shown on attachments A-H. A summary of the installation and relocation projections are as follows:

	FY-82	FY-83	FY-84	FY-85	FY-86
Installations	367	362	351	396	397
Relocations	297	350	404	460	520

25X

As a base against which the OC support level can be measured, 144 low-speed (asynchronous), 16 high speed (bisynchronous) terminal installations, and 117 terminal relocations were made in FY 1979.

25X

In addition to the above, replacement of the existing Delta Data 5260 terminal with the new ODP terminal is scheduled to start in FY 1981 and to be completed in FY 1985 with approximately 200 terminals per year being replaced depending upon availability of funds. Replacement terminals may not require any change in communications support.

25X1

Included in the new installations are CAMS requirements for 15 CRT terminals and 3 medium high speed printers per year and the addition of 10 graphics terminals to the CAMS configuration in FY 1983. The terminal projection presented for FY 1982 includes CAMS FY 1981 requirements which were programmed by OC at an enhanced level.

25X

The projections presented do not include SAFE terminals. SAFE projections for FY 1982 are for 600 terminals to be installed as follows:

25X1

25X

A total of 1275 SAFE terminals will be installed through FY 1985 as follows:

FY-82	FY-83	FY-84	FY-85	TOTAL
600	225	225	225	1275

The distribution of FY 1983 to FY 1985 SAFE terminals among Agency buildings is not available at this time.

Because plans for using the new ODP terminal for both SAFE and other ODP services have not been formed, OC should plan on installing separate terminals for SAFE users. [redacted] 25X

7. Data Line and Patch Panel Installations: The rate of new terminal installations raises a requirement for more communication controller capacity in the computer centers. In turn, OC will be called upon for the installation of additional data lines between the Central Distribution Frame (CDF) room and the computer centers, and for the installation of patch panels. Such new capacity will be called for as follows:

FY 1982: Install 336 asynchronous and 48 bi-synchronous data lines between CDF and the GC-47 Special Center. Install and connect patch panel in GC-47 with same capacity (DDO System). [redacted] 25X

FY 1982: Install 448 asynchronous and 48 bi-synchronous data lines between CDF and the GC-03 Ruffing Center. Install and connect patch panel in GC-03 with same capacity. [redacted] 25X

FY 1986: Install 336 asynchronous and 48 bi-synchronous data lines between CDF and the GC-47 Special Center. Install and connect patch panel in GC-47 with same capacity. (DDO System). [redacted] 25X

FY 1986: Install 388 asynchronous and 48 bi-synchronous data lines between CDF and and the GC-03 Ruffing Center. Install and connect patch panel with same capacity. [redacted] X1

25X

The installation of patch panels and RFI racks, etc. to support the installation of five new ODP front-end processors was programmed by OC at an enhanced level for FY 1981. The front-end processors will be acquired by ODP in FY 1980; this requirement must be satisfied in FY 1982 to allow continued customer access to ODP services. [ ] 25X

8. Black Telephone and Secure Voice [ ] ODP has a requirement that the level of service between [ ] and Headquarters be increased to provide users access to the desired Headquarter exchange with a maximum of two attempts during a normal working day for both black and secure lines. And, further, that the hours of secure voice support available in the [ ] be extended to 0730-1800 on all workdays. 25X

These enhancements to the commercial and secure voice systems are necessitated by the relocation of A Division (35-40 people) to [ ] and the increased emphasis on security. This requirement should be programmed for FY 1982 if not satisfied in FY 1980 or FY 1981. [ ] 25X1 25X

9. Data Service to [ ]: ODP has a requirement for three 9600 baud lines from Headquarters to [ ] to support graphics terminals. As noted in attachment C, 16 graphics terminals are projected for installation in external buildings from FY 1982 to FY 1986. Each installation will require a 9600 bps line with the ODP stated reliability and availability figures. [ ] 25X1 25X

The Office of Logistics also identified the requirement in FY 1981 for data communications to support a Headquarters [ ] minicomputer link. This requirement was programmed at the enhanced level and should be included in the [ ] data support plans for FY 1982. [ ] 25X1 25X1 25X

10. Data Service to Chamber of Commerce Building: The ODP Training Staff anticipates higher utilization of the computer terminal facilities in the Chamber of Commerce Building during the FY 1982 to FY 1986 period. It is a requirement that the number of lines from Chamber of Commerce to the ODP Ruffing Center be increased to a maximum of 20 during FY 1982 for the OTR terminal complex. [ ] 25X

The quality of service needed is as previously stated by ODP: .995 average reliability, .995 average availability, and one uncorrected error per week per circuit. Circuit sizing for each terminal should accomodate 9600 bps. [ ] 25X

[ ] 25X

11. High Speed Line Requirements: New equipment coming into the ODP systems as standards and the expansion of existing ODP services drive a requirement for higher speed data lines, both within and external to the Headquarters Building. Equipment or services which make up the high speed line requirements are:

a. New Agency standard CRT Terminal, with burst usages in the 2,000 - 20,000 character range. For terminals with floppy disks, burst usage could be in the 100,000 character range. [redacted] 25X

b. Word Processing stations. While the number of "connects" between word processing stations and ODP host computers is expected to be relatively low, large volumes of data would be transmitted during each connect session. [redacted] 25X

c. The increasing user requirement for ODP to provide registry type services (volume hard-copy output) at dispersed locations. [redacted] 25X

d. An increase in the number of minicomputers being interfaced to the ODP main systems. [redacted] 25X

OC should be prepared to offer data lines at the following standard speeds:

300 Bits per Second (BPS)
600 Bits per Second (BPS)
1200 Bits per Second (BPS)
2400 Bits per Second (BPS)
4800 Bits per Second (BPS)
9600 Bits per Second (BPS)
19200 Bits per Second (BPS) [redacted] 25X

[redacted] 25X

Attachments: a/s

cc: DD/P/ODP
DD/A/ODP
C/SPS/ODP
C/AD/DD/A/ODP
C/P&PG/ODP
ODP Planning Officer

[redacted] 25X